REMARKS

Claims 1-52 are pending in the above-captioned patent application after this amendment. Claim 12 was found to contain patentable subject matter. Claims 1-11 and 13-52 have been rejected. Claims 16 and 30 have been objected to as being identical. The drawings have been objected to as being informal.

The Applicants respectfully disagree with the rejection of claims 1-11 and 13-52. However, claims 1 and 36 have been amended to clarify what the Applicants regard as the invention and for the purpose of expediting the patent application process in a manner consistent with the goals of the Patent Office pursuant to 65 Fed. Reg. 54603 (September 8, 2000), even though the Applicants believe that the previously pending claims were allowable as written. Further, claim 30 has been amended to correct a typographical error.

Support for the amendments to claims 1, 30 and 36 can be found throughout the originally filed application, including the originally filed claims, the drawings and the specification. More specifically, support for the amendments to claims 1, 30 and 36 can be found at least in Figures 1-5, in originally filed claim 22, and in the specification at page 20, lines 3-9.

No new matter is believed to have been added by this amendment. Reconsideration of the pending application is respectfully requested.

Objections to the Drawings

The drawings have been objected to because Figures 1-17B are informal. Attorney for the Applicants acknowledges the aforementioned informality and submits herewith replacement drawings that are in compliance with 37 CFR §1.84.

Claim Objections

Claims 16 and 30 are objected to on the basis of a specified informality. More particularly, the Examiner states that "(c)laim 30 depends on claim 16, but they are identical." The Applicants respectfully submit that appropriate correction has been made. More particularly, claim 30 has been amended to correct a typographical error to depend from claim 22. Accordingly, the Applicants respectfully submit that the basis for objection

to claims 16 and 30 has been overcome.

Rejections Under 35 U.S.C. § 102(b)

Claims 1-4, 6, 8-11, 13, 16, 18-22, 25-27, 30, 32-37, 40-44, 47 and 49-52

Claims 1-4, 6, 8-11, 13, 16, 18-22, 25-27, 30, 32-37, 40-44, 47 and 49-52 are rejected under 35 U.S.C. § 102(b) as being anticipated by Sakai (U.S. Patent No. 5,214,290). The Applicants respectfully submit that amended claims 1 and 36 are patentable over the cited reference. Further, the Applicants respectfully traverse the rejection of claims 22, 25-27, 30 and 32-35 and respectfully submit that claims 22, 25-27, 30 and 32-35 are patentable over the cited reference.

The Examiner contends that "Sakai discloses a stage assembly that moves a device along a Y axis (FIG. 1), the stage assembly comprising: a device stage that retains the device (FIG. 1, element 13-14); a stage mover assembly connected to the device stage, the stage mover assembly moving the device stage along the Y axis (FIG. 1: a corresponding mover that moves element 16 in Y direction); and a first follower frame that supports the device stage along a Z axis (Referring to claim 22), the first follower frame moving along the Y axis (FIG. 1: the left element 16)."

The Examiner further asserts that Sakai discloses the various elements that are present in dependent claims 2-4, 6, 8-11, 13, 16, 18-21, 25-27, 30, 32-35, 37, 40-44, 47 and 49-52.

The Applicants provide that Sakai is directed to an electron beam lithography apparatus comprising a workpiece stage 2 that supports a workpiece 13, the workpiece stage 2 including an X table 15 and a Y table 14, which are supported by a base 16. The workpiece 13 is moved in the X-axis direction by an X-axis driver mechanism 19 that moves both the X table 15 and the Y table 14 in the X-axis direction along cross roller guides 26X. The workpiece 13 is moved in the Y-axis direction by a Y-axis driver mechanism 20 that moves only the Y table 14 in the Y-axis direction along cross roller guides 26Y. Importantly, the X-axis driver mechanism is fixed to the base 16, and the base 16 and the Y-axis driver mechanism are both fixed to a side wall 27 of a vacuum workpiece chamber 5. Rollers 17 are mounted on the base 16 and are arranged to roll on withdrawal guide rails 18 so that the workpiece stage 2 and driver mechanisms 19, 20 can

be easily removed for maintenance work. (Sakai column 1, lines 18-24, column 2, line 58 through column 3, line 18, column 3, lines 45-52, and in Figures 1 and 2).

However, Sakai does not disclose a stage assembly comprising a device stage and a first follower frame that moves substantially concurrently with the movement of the device stage. In Sakai, the base 16 is fixed to the side wall 27, so it is not possible during movement of the workpiece stage 2 that the base 16 moves substantially concurrently with the movement of the workpiece stage 2 (i.e. the Y table 14) along the Y-axis.

In contrast to the cited reference, amended claim 1 of the present invention recites "(a) stage assembly ... comprising: a device stage that retains the device; a stage mover assembly connected to the device stage, the stage mover assembly moving the device stage along the Y axis; and a first follower frame that supports the device stage, the first follower frame moving substantially concurrently with the movement of the device stage along the Y axis."

These features are not taught or disclosed by Sakai. Accordingly, amended claim 1 is believed to be patentable over the cited reference. Additionally, the Applicants respectfully submit that any potential 35 U.S.C. §103 rejection of amended claim 1 is not appropriate because Sakai does not teach or suggest the features of amended claim 1.

Because claims 2-4, 6, 8-11, 13, 16 and 18-21 depend either directly or indirectly from amended claim 1, they are also considered to be patentable over the cited reference.

Further, in contrast to the cited reference, claim 22 of the present invention recites "(a) stage assembly ... comprising: a device stage that retains the device; a stage mover assembly connected to the device stage, the stage mover assembly moving the device stage along the X axis and along the Y axis; a first follower frame that supports the device stage along a Z axis; and a first follower mover that moves the first follower frame along the Y axis substantially concurrently with the movement of the device stage along the Y axis."

These features are not taught or disclosed by Sakai. Accordingly, claim 22 is believed to be patentable over the cited reference. Additionally, the Applicants respectfully submit that any potential 35 U.S.C. §103 rejection of claim 22 is not appropriate because Sakai does not teach or suggest the features of claim 22.

Because claims 25-27, 30 and 32-35 depend either directly or indirectly from claim

22, they are also considered to be patentable over the cited reference.

Additionally, in contrast to the cited reference, amended claim 36 of the present invention recites "(a) method for making a stage assembly ... comprising the steps of: providing a device stage that retains the device; connecting a stage mover assembly to the device stage, the stage mover assembly moving the device stage along the Y axis; supporting the device stage along a Z axis with a first follower frame; and connecting a first follower mover to the first follower frame, the first follower mover moving the first follower frame substantially concurrently with the movement of the device stage along the Y axis."

These features are not taught or disclosed by Sakai. Accordingly, amended claim 36 is believed to be patentable over the cited reference. Additionally, the Applicants respectfully submit that any potential 35 U.S.C. §103 rejection of amended claim 36 is not appropriate because Sakai does not teach or suggest the features of amended claim 36.

Because claims 37, 40-44, 47 and 49-52 depend either directly or indirectly from amended claim 36, they are also considered to be patentable over the cited reference.

Claims 1, 14, 15, 22, 28, 29, 36, 45 and 46

Claims 1, 14, 15, 22, 28, 29, 36, 45 and 46 are rejected under 35 U.S.C. § 102(b) as being anticipated by Sloyan (U.S. Patent No. 4,120,210). The Applicants respectfully submit that amended claims 1 and 36 are patentable over the cited reference. Further, the Applicants respectfully traverse the rejection of claims 22, 28 and 29 and respectfully submit that claims 22, 28 and 29 are patentable over the cited reference.

The Examiner contends that "Sloyan discloses a stage assembly that moves a device along a Y axis (FIG. 1), the stage assembly comprising: a device stage that retains the device (FIG. 1, elements 10 and 15); a stage mover assembly connected to the device stage, the stage mover assembly moving the device stage along the Y axis (FIG. 1: element 14 and 16); and a first follower frame that supports the device stage along a Z, the first follower frame moving along the Y axis (FIG. 1, element 17)."

The Examiner further asserts that Sloyan discloses the various elements that are present in dependent claims 14, 15, 28, 29, 45 and 46.

The Applicants provide that Sloyan is directed to a motor mount for an electric

motor 1 comprising a carriage 10 that is slidable along parallel cylindrical rod-like rails 12 in the forward and rearward directions under manual operation of a crank 14 that rotates a long screw 16 located between and parallel to the rails 12. The carriage includes a plurality of cross-sectionally square and parallel glider tubes 11 and a cross-sectionally square housing tube 17 that are welded to the underside of a carriage top, which may be a pair of cross-member plates 15, 15 or a single plate 15a. The rails 12 are within and make sliding contact with the inner walls of glider tubes 11, and the screw 16 extends through the housing tube 17. Importantly, Sloyan states that "(i)t is essential that the carriage body shall not only be a consolidated, rigid unit, but that the gliders shall likewise be accurately unified therewith to provide a freely slidable assembly". (Sloyan column 1, lines 5-55, column 3, line 48 through column 4, line 18, and in Figures 1, 2 and 5).

However, Sloyan does not disclose a stage assembly comprising a device stage and a first follower frame that moves substantially concurrently with the movement of the device stage. In Sloyan, the glider tubes 11 and the housing tube 17 are welded to the carriage plates 15 to form one unified carriage 10 on which a device can be mounted. Neither the glider tubes 11 nor the housing tube 17 can be considered a follower frame that moves substantially concurrently with the movement of the carriage 10, because they are necessarily and integrally welded to the carriage plates 15 as part of the carriage 10. Additionally, Sloyan does not disclose a stage mover assembly that moves the device stage and a separate first follower mover that moves the first follower frame.

In contrast to the cited reference, amended claim 1 of the present invention recites "(a) stage assembly ... comprising: a device stage that retains the device; a stage mover assembly connected to the device stage, the stage mover assembly moving the device stage along the Y axis; and a first follower frame that supports the device stage, the first follower frame moving substantially concurrently with the movement of the device stage along the Y axis."

These features are not taught or disclosed by Sloyan. Accordingly, amended claim 1 is believed to be patentable over the cited reference. Additionally, the Applicants respectfully submit that any potential 35 U.S.C. §103 rejection of amended claim 1 is not appropriate because Sloyan does not teach or suggest the features of amended claim 1.

Because claims 14 and 15 depend either directly or indirectly from amended claim

1, they are also considered to be patentable over the cited reference.

Further, in contrast to the cited reference, claim 22 of the present invention recites "(a) stage assembly ... comprising: a device stage that retains the device; a stage mover assembly connected to the device stage, the stage mover assembly moving the device stage along the X axis and along the Y axis; a first follower frame that supports the device stage along a Z axis; and a first follower mover that moves the first follower frame along the Y axis substantially concurrently with the movement of the device stage along the Y axis."

These features are not taught or disclosed by Sloyan. Accordingly, claim 22 is believed to be patentable over the cited reference. Additionally, the Applicants respectfully submit that any potential 35 U.S.C. §103 rejection of claim 22 is not appropriate because Sloyan does not teach or suggest the features of claim 22.

Because claims 28 and 29 depend either directly or indirectly from claim 22, they are also considered to be patentable over the cited reference.

Additionally, in contrast to the cited reference, amended claim 36 of the present invention recites "(a) method for making a stage assembly ... comprising the steps of: providing a device stage that retains the device; connecting a stage mover assembly to the device stage, the stage mover assembly moving the device stage along the Y axis; supporting the device stage along a Z axis with a first follower frame; and connecting a first follower mover to the first follower frame, the first follower mover moving the first follower frame substantially concurrently with the movement of the device stage along the Y axis."

These features are not taught or disclosed by Sloyan. Accordingly, amended claim 36 is believed to be patentable over the cited reference. Additionally, the Applicants respectfully submit that any potential 35 U.S.C. §103 rejection of amended claim 36 is not appropriate because Sloyan does not teach or suggest the features of amended claim 36.

Because claims 45 and 46 depend either directly or indirectly from amended claim 36, they are also considered to be patentable over the cited reference.

Rejections Under 35 U.S.C. § 103(a)

Claims 5, 7, 17, 23, 24, 31, 38, 39 and 48 have been rejected under 35 U.S.C.

§103(a) as being unpatentable over Sakai (U.S. Patent No. 5,214,290) in view of Sugishima et al. (U.S. Patent No. 4,684,315). The Applicants respectfully submit that claims 5, 7, 17, 23, 24, 31, 38, 39 and 48 are patentable over the cited combination of references.

As provided above, claims 1, 22 and 36 are believed to be patentable. Because claims 5, 7 and 17 depend either directly or indirectly from claim 1, they are likewise patentable. Further, because claims 23, 24 and 31 depend either directly or indirectly from claim 22, they are likewise patentable. Additionally, because claims 38, 39 and 48 depend either directly or indirectly from amended claim 36, they are likewise patentable.

Allowable Subject Matter

Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 12 depends indirectly from claim 1. As provided above, claim 1 is patentable. Accordingly, the Applicants respectfully submit that claim 12 is also patentable, and that the basis of the objection is overcome, having shown the allowability of base claim 1 above.

CONCLUSION

In conclusion, the Applicants respectfully assert that claims 1-52 are patentable for the reasons set forth above, and that the application is now in a condition for allowance. Accordingly, an early notice of allowance is respectfully requested. The Examiner is requested to call the undersigned at 858-456-1951 for any reason that would advance the instant application to issue.

Dated this 20th day of November, 2003.

Respectfully submitted,

STEVEN G. ROEDER
Attorney for Applicants
Registration No. 37,227

THE LAW OFFICE OF STEVEN G. ROEDER
5560 Chelsea Avenue
La Jolla, California 92037
Telephone: (858) 456-1951